

What is claimed is:

1. An apparatus for locating and anesthetizing nerves comprising:

a needle adapted to be connected to a syringe having an anesthetic therein;

an electric current generator operatively connected to the needle to selectively apply an electrical stimulus to the needle;

a hands-free current generator controller operatively connected to the current generator, the current generator controller determining electrical characteristics, including at least an amperage, of the electrical stimulus; and

a hands-free syringe controller adapted to be connected to the syringe to selectively aspirate the syringe and inject the anesthetic through the needle.
2. The apparatus of claim 1, wherein the syringe controller comprises a foot pedal movably connected to a base, the foot pedal having compressed and uncompressed positions relative to the base.
3. The apparatus of claim 2, wherein the foot pedal is pivotally mounted to the base.
4. The apparatus of claim 2, wherein the syringe controller further comprises:

a master hydraulic cylinder having a first cylinder portion mounted to one of the foot pedal and the base and a first piston portion mounted to the other of the foot pedal and the base, the first cylinder portion and first piston portion slidingly engaging each other such that compression of the foot pedal contracts the master cylinder;

a slave hydraulic cylinder having a second cylinder portion adapted to be mounted to one of a syringe base and plunger and a second piston portion adapted to be mounted to the other of

the syringe base and plunger, the second cylinder portion and second piston portion slidingly engaging each other; and

a first fluid pathway hydraulically connecting the master cylinder to the slave cylinder such that contraction of the master cylinder extends the slave cylinder, which, in turn, is adapted to contract the syringe and push the anesthetic through the needle.

5. The apparatus of claim 4, wherein the syringe controller further comprises:

a first clamp mounted to the second cylinder and adapted to removably secure the one of the syringe base and plunger to the second cylinder; and

a second clamp mounted to the second piston and adapted to removably secure the other of the syringe base and plunger to the second piston.

6. The apparatus of claim 4, further comprising a pressure gauge operatively connected to the slave cylinder, the pressure gauge displaying the pressure within the slave cylinder.

7. The apparatus of claim 4, further comprising a relief valve operatively connected to the slave cylinder, wherein the relief valve opens when the pressure in the slave cylinder exceeds a predetermined pressure.

8. The apparatus of claim 4, wherein the syringe controller further comprises:

a first resilient member operatively connected between the second piston portion and second cylinder portion, the first resilient member tending to contract the slave cylinder and adapted to extend the syringe;

a fluid reservoir;

a second fluid pathway connecting the slave cylinder to the fluid reservoir;

a first check-valve disposed within the second pathway, the first check-valve only allowing fluid to flow through the second pathway toward the reservoir; and

a second valve disposed within the second pathway in series with the first check valve, the second valve being controlled by the foot pedal such that the second valve opens only when the foot pedal is in the uncompressed position.

9. The apparatus of claim 8, wherein the syringe controller further comprises:

a second resilient member disposed between the base and the foot pedal, the second resilient member tending to force the foot pedal into the uncompressed position;

a third fluid pathway connecting the reservoir to the master cylinder;

a third check-valve disposed within the third pathway, the third check-valve only allowing fluid to flow through the third pathway toward the master cylinder; and

a fourth check-valve disposed within the first pathway, the fourth check-valve only allowing fluid to flow through the first pathway toward the slave cylinder.

10. The apparatus of claim 8, wherein the reservoir is mounted to the base and filled with fluid.

11. The apparatus of claim 10, wherein the fluid is hydraulic fluid.

12. The apparatus of claim 10, wherein the fluid is water.

13. The apparatus of claim 12, wherein the syringe controller further comprises a selectively-openable drain operatively connected to the reservoir permitting water to be drained before transporting the apparatus and to be filled before using the apparatus.

14. The apparatus of claim 2, wherein the current generator controller is foot-operated.
15. The apparatus of claim 14, wherein the current generator controller comprises:
first and second foot switches mounted to the base and operatively connected to the electric current generator, wherein actuation of the first foot switch increases the amperage, and wherein actuation of the second foot switch decreases the amperage.
16. The apparatus of claim 14, wherein, when the current generator is not generating a current, actuation of either of the first and second foot switches turns on the generator.
17. The apparatus of claim 1, wherein the current generator is mounted to the syringe controller.
18. The apparatus of claim 1, further comprising an amperage display operatively connected to the current generator, the amperage display being adapted to display the amperage being output by the current generator.
19. The apparatus of claim 1, further comprising a speaker operatively connected to the current generator to call out audibly the amperage being output by the current generator.
20. The apparatus of claim 1, further comprising a light operatively connected to the current generator, the current generator and light being constructed such that the light flashes each time the electric stimulus is applied to the needle.

21. A foot-actuated syringe controller comprising:

a syringe having a syringe base and a plunger;

a foot pedal base; and

a foot pedal movably connected to the foot pedal base, the foot pedal having actuated and unactuated positions relative to the foot pedal base, the foot pedal being operatively connected to the syringe,

wherein moving the foot pedal into the actuated position moves the plunger toward the syringe base, thereby injecting a fluid out of the syringe, and

wherein releasing the foot pedal into the unactuated position applies a force to the plunger that tends to move the plunger away from the syringe base, thereby aspirating the syringe.

22. A foot-actuated syringe controller according to claim 21, further comprising:

a master hydraulic cylinder having a first cylinder portion mounted to one of the foot pedal and the foot pedal base and a first piston portion mounted to the other of the foot pedal and the foot pedal base, the first cylinder portion and first piston portion slidingly engaging each other such that actuation of the foot pedal contracts the master cylinder,

a slave hydraulic cylinder having a second cylinder portion mounted to one of the syringe base and plunger and a second piston portion mounted to the other of the syringe base and plunger, the second cylinder portion and second piston portion slidingly engaging each other; and

a first fluid pathway hydraulically connecting the master cylinder to the slave cylinder such that contraction of the master cylinder extends the slave cylinder, which, in turn, moves the plunger toward the syringe base.

23. A foot-actuated syringe controller according to claim 22, further comprising:

a first resilient member operatively connected between the second piston portion and second cylinder portion, the first resilient member tending to move the plunger away from the syringe, thereby aspirating the syringe;

a fluid reservoir;

a second fluid pathway connecting the slave cylinder to the fluid reservoir;

a first check-valve disposed within the second pathway, the first check-valve only allowing fluid to flow through the second pathway toward the reservoir; and

a second valve disposed within the second pathway in series with the first check valve, the second valve being controlled by the foot pedal such that the second valve opens only when the foot pedal is in the unactuated position.

24. A foot-actuated syringe controller according to claim 23, further comprising:

a second resilient member disposed between the base and the foot pedal, the second resilient member tending to force the foot pedal into the unactuated position;

a third fluid pathway connecting the reservoir to the master cylinder;

a third check-valve disposed within the third pathway, the third check-valve only allowing fluid to flow through the third pathway toward the master cylinder; and

a fourth check-valve disposed within the first pathway, the fourth check-valve only allowing fluid to flow through the first pathway toward the slave cylinder.